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EDUCATIONAL PROBLEMS OF ADOLESCENCE

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Not all children develop alike, in truth no two develop in the same way; yet a knowledge of the nascent periods of development and of the aggregate interests of any age may prevent serious mistake in education.

The inherent difficulty of the subject lies in the fact that all study of the child must be objective. It must be made from an adult standpoint and is necessarily full of errors. We get at the mind through the body, which is the reservoir of habit. The mind is not static, but is continually changing and presents different and distinct features at each stage of growth. It grows only by social contact; cannot develop alone, but is a function of social life. It acts only through social stimuli, and develops only in response to social needs.

The educative period of human life has been divided by psychologists into four stages. These groups are not set off from one another sharply by marked lines, by sudden and abrupt changes of characteristics, but they blend into and overlap one another. They are not sorts of phenomena which occur at certain stated periods in the child's life, consisting of physical and mental upheavals.

Dr. Dewey says, "They are simply to be considered as the apexes of waves of greater amplitude. It is not so much that

the old has fallen off, but that the new has come in, and coming in, it assimilates into itself a great many of the other features."

In other words each period is characterized by a new standpoint in which the old activities have not disappeared, but remain to show themselves under different conditions, while the new activities give character to the period.

Thus, then, in discussing the adolescent, one must bear in mind the characteristics of the preceding stages of growth, how these came to be, what they do, in short, what is their relation to the general scheme of development.

"Character in infancy is instinct, in childhood it is slowly made over into habits, while at adolescence it can be cultivated through ideals."

Adolescence differs from the preceding stages in that the changes are more marked and sudden. To the average observer it is almost a Minerva birth. From childhood the boy springs full grown to manhood, the girl to womanhood. It is literally a new birth, a time when physical, mental, and moral changes take new departures.

The most marked physical characteristic is of course the rapid growth. At this time the normal annual per centage of increase in height, weight, and strength is from 15 per cent. upward.

Although in varying ratios, the bones—the arms, the legs, the thighs—all grow both in length and in breadth.

The brain, which has almost reached its maximum size at the eighth year, continues to increase slightly, while the skull shares in the general development of the bones.

Muscular growth, especially in the larger fundamental muscles, is also rapid. Lungs and chest are augmented in size, while the heart increases its volume from an average of 160 to 225 cubic centimeters, and during this period, quite reverses its relation to the circulatory system.

Previous to adolescence the heart is small while the blood vessels are large, but in the adult, the opposite condition prevails.

One noticeable feature of this rapid physical growth is its lack of harmony. Asymmetries of form and function in the

right and left half of the body are common. The shoulders or head tips slightly, or the spine curves, or there is a disposition to lop or stoop in standing and sitting.

The muscular growth is out of proportion to bone growth, sometimes resulting, when the linear growth of the bone is less than that of the muscles, in flexibility of the joints; when it is greater, if the unequal tension is extreme, in contractures or warping of the bones. The characteristic clumsiness of the adolescent is largely due to this disproportion between bone and muscle growth, together with the rapid development of the larger muscles and the retarded growth of the smaller and finer muscles which make all the delicate adjustments.

Adolescence is an apparently healthy stage, when judged by the low death rate. Yet it is, in truth, a period susceptible to disease. Childish disorders are still in evidence, and adult diseases have already made their appearance. Anemia, hysteria, epilepsy, heart trouble, nervousness, headache, eye disorders, some forms of chorea, spinal curvature, and digestive trouble; are all more or less familiar.

In addition to the diseases peculiar to the age, city life, with its impure air, its liability to contagion, and its distracting hindrances to that repose which is so essential to youth—city life is directly responsible for much ill-health.

Many of the digestive troubles are due to unwise habits of eating, which again have their origin in the vagaries of appetite, which is "not an infallible guide to physiological needs." Stanley Hall claims that this is the nascent period for establishing a well-balanced dietary, and wisely suggests the value of judicious oversight eked out on occasion by a little wholesome authority. It is probably true that the greater number of breakdowns in later student life is due to errors in diet. Much of this ill health, which is neither illness nor health, but on the border land between the two conditions, is owing to physical unbalance.

If any of the vital organs fail to grow in proportion to the growth of the body, they are subject to strain, become unable to do the work required of them, and tend to collapse. Any

strain or tension now is dangerous. Curvatures are likely to result from an ill-fitting desk, or from any occupation that requires an unnatural position, or produces strain or excessive confinement.

There is an especial risk in commenting upon the increased height of a child as in his efforts to reduce or hide it, he may assume a crouching position which will affect the shape of the bones or depress the chest, which in turn may affect the lungs. More than one case of this has come under my observation.

Doubtless, the most important physical changes are involved in the development of the sex function. These changes are of vast importance, physically and mentally, furnishing, as they do, some explanation of the mental and moral characteristics of the period; but they do not naturally cause the pathological conditions emphasized by Dr. Hall. Normal functions under normal conditions do not bring about abnormal results.

As the most striking physical feature at this time is the rapid growth, so the most prominent mental characteristic is emotional instability, which at the beginning quite overshadows the intellectual changes. New emotions come into being, old emotions are intensified; desires, vague yearnings are felt. There is a great influx of nervous energy, a desire to do things, a consciousness of self, which leads to that overassertion of individuality that shows itself in boastfulness; this is sometimes the expression of conscious weakness assuming a strong position. Altruism and self-interest struggle for the mastery. It is a period of introspection and reverie, of self-consciousness and self-criticism, sometimes extending to morbidness. Imagination runs riot, the youth sees visions and dreams dreams. His power of imitation is strong, a new interest in speech develops, the use of slang culminates, while the dramatic instinct is at its height. It is withal a *social* period; intense and devoted friendships are formed, interest in adults and a desire to be treated as adult shows itself. The old occupations and amusements no longer suffice, new activities and new interests are demanded. The future for the first time becomes all-important, the present is overshadowed. There is a widening of the child's horizon, he begins to recog-

nize his relation to society, and is interested in social life as it reveals to him his own place and its meaning. This enlargement of the sphere of his interests makes it also a period of personal readjustment to the new point of view, and the effort on the part of the individual to reconstruct himself, as it were, the effort to meet the new situation, is the primary cause of the emotional disturbances which have gained for this age the title of the "storm-and-stress period."

The intellectual changes are no less important than the physical and the emotional. The higher thought processes show themselves. Reasoning grows more formal and elaborate. The child becomes more reflective. He is interested in principles and makes large generalizations. He discovers and formulates relationships. Details have now new meaning—they are instances or examples of some general law.

But with this coming into function of new desires and new interests comes also normally the evolution of the higher powers of control and inhibition, and if the physical and mental characteristics of the previous periods of growth have been developed under proper conditions, the educational problems of adolescence resolve themselves into one problem, i. e., that of adjustment to the social organism. If, however, the preceding periods of growth have not been properly utilized, they give rise to important adolescent problems.

We are slowly coming to see that there is an order of development, physical and mental, and that education must observe that order. The details have not yet been worked out, but enough has been done to point the way. The theory of nascent periods of development maintains that if any power is not exercised properly at its appropriate time, it will be arrested in its development. Mr. O'Shea has pointed out that a nerve center loses its plasticity when the wave of ripening moves past it to other centers; and this results, not only in the arrest of this particular function, but it influences other functions by interfering with the readiness of association between centers that can become connected only through the undeveloped one.

In all the organs, periods of growth seem to alternate with

periods of functional activity. A period of unconscious ripening precedes functional activity. Frequently, moreover, the period of functional activity is succeeded by a further period of unconscious growth or incubation, followed by another and higher manifestation of functional activity, and so on, growth and activity sustaining a sort of rhythm with increasing richness and development.

The period of functional activity is the critical period both for the function itself and all the functions associated with it. This period may be sustained by proper nutrition and a basis be laid for future strength. Or, by a lack of nutrition it may be retarded, the effect of which would be seen in arrested development.

If a child is compelled to repeat any form of activity, when in the normal course of development the attention should be upon a higher activity, the higher powers do not mature. The tendency is to remain on the lower plane. Every teacher knows with what distaste adolescents respond to drill and repetition in studies that they commonly regard as belonging to childhood while they are amenable to forms of discipline that they consider a part of the life of their contemporaries and elders. Shop work with emphasis on technique, gymnastics, military drill, *do* seem to make more or less appeal to them. The adolescent is not concerned primarily in getting *control* of a tool, but in *using* that tool to work out his ideas, thus enlarging his experience. Drill prolonged beyond the nascent period, or overemphasis upon thoroughness, or excessive devotion to detail, will result not in mental growth, but in the arrest of growth.

There is also that other danger which perhaps is more apparent than arrested development. I refer to forcing or overstimulation—so often the result of parental vanity—resulting in the precocious child, whose powers, like the hothouse plant, forced to early maturity, soon decay.

In childhood, the second division of the periods of mental development, the emphasis is upon the motor side. At this time the child is interested in the process rather than in the product. Dr. Donaldson believes that the development of the higher areas

of the brain depends upon the development of the motor areas. Since the motor areas function first, they should be exercised first educationally. If this is not done, the higher areas, which are in a measure dependent upon them, can never be completely developed. Psychologically, this means that muscular experiences are essential to the gaining of clear definite effective ideas of the world.

Childhood is the period for play, which at this time is not only a factor in the child's present growth, but it is an element of future efficiency. Play is the vicarious living of the child. He goes through typical race experiences, experiments; discovers, and forms habits. Doubtless, to the fact that many children are deprived of these muscular experiences is to be attributed the vague, formless images which many adolescents hold. But the important thing is that the child must carry on an activity in order to comprehend it. In early life all activities must be lived out; but the central elements of these activities remain with the individual in generalized form, and as he grows older, these only are needed for readjustment. It thus follows that in maturity the mental activity finds it easier to gain the ascendency.

It is evident, if the lines of development that I have indicated are in the right direction, the duty of training the adolescent is for the home as well as the school. The work of each is distinct from the other, and yet in perfect harmony one with the other. Today we are asking ourselves the question, What can the *school* do in this direction?

We Americans are proud of our public school. We deem it the panacea for all individual and social ills, and the condition of higher development. How is it meeting the needs of this period of life? If I were asked to name the most vital function of the school, I should unhesitatingly say, "To give its pupils worthy ideals of life." Theoretically, the old ideals of mere study and brain work are passing. Theoretically, "the old order changeth, yielding place to new." The public school is not primarily to better the material condition of any child. Its justification lies in gain to the state in terms of citizenship, and just so far as individual advancement means increased responsi-

bility for one's fellows, loyalty to the community through efficient service, constructive appreciation of property rights, both public and private property, and a recognition of group interests, to that degree, and that only, the interest of the state and the success of the individual are one and the same.

The purpose of the curriculum is not alone to advance the pupil in knowledge. Any adequate curriculum must take into account the *whole* child, physical, intellectual, spiritual. It must take account of his present stage of growth, must know the relation of his present to his *past,* must *utilize* his past experiences, and above all recognize his present working capital—his mental equipment—and make no attempt to go back of or beyond that. This curriculum must have its foundations in the culture already achieved by the race. It must look forward to the child's future, to the society in which he is to live.

The material that enters into this curriculum should be selected in accordance with the normal development of the student, and with the direct purpose of aiding in that development. It should be material that arouses his interest, that demands his highest effort, and answers his present needs.

We believe that the mental state is to some extent dependent upon the physical condition. The school can do much physically for its pupils, both directly and indirectly. First, the amount of mental work in early adolescence, especially for boys, should be replaced by a great deal of physical work. In this same connection, let me recommend increasing the time devoted to sleep. I've noticed that many young people often object to early rising. This is probably due to the fact that they require more sleep than they are accustomed to take. If your child must sit up late at night to prepare his lessons for the next day, something is wrong. Either he has unduly postponed beginning his preparation or the work required is excessive, or he is advanced beyond his ability. Studying late at night is not a virtue. There should be no undue strain in intellectual work. Study should be a pleasure, and there should be time for recreation.

Much less time should be spent in the schoolroom and much more spent in the open air, in walking or running or skating or

swimming; in playing ball or tennis or golf; in games and amusements appropriate to the season. For indoors, there are dancing, fencing, basket ball, and other games and plays which combine recreation with the needed muscular development. Walking is an especially valuable exercise. The adolescent should not be sent to school in an automobile. High-school girls suffer from a lack of physical exercise at this the golden age of development. This is the period for exercising the larger fundamental muscles that move the trunk, large joints, back, shoulders, hips, neck, elbows, and knees. Formerly when industries were carried on in the home the occupations were such as developed these basal muscles. But with the advent of the shop and factory, the occupations which our young people carry on require only the use of the finer muscles. When this work is fine, exact, and overprecise, we have again the danger of nervous strain and tension. For this reason sewing and much fine needlework are not well suited to girls in the upper grammar grades. Other forms of textile work are better adapted to this age.

Direct physical training should be part of the daily programme. In this exercise special attention should be paid to carriage and bearing. The work should consist of free gymnastics with exercises on the apparatus. Stress should be upon the larger muscles. The result of this work should appear in dexterity, alertness, in grace and ease of movement, as well as in increased strength and power of endurance. The exercises given to girls should not be the exercises given to boys. By this I do not mean that they should be *easier,* but that they should be different—planned in each case to meet the needs of the differently developing bodies. Plays and games, recreative gymnastics adapted to the stage of growth should form part of this course. Withal the exercises should be co-ordinated and progressive, leading on the one hand to physical and mental control, on the other to that natural democratic spirit which comes when young people meet on a common plane. For all who need it, this course should include corrective exercises to offset the defects of the school and home life; or the misfits between environment and nature. The changed relation between the parts of the body lessens for

the time their co-ordination and unity. This renders it a plastic period, a time when previous abnormal growths may be overcome, both by nature and by physical training.

The problem as Dr. Hall states it is how far "to stimulate each part in its period of greatest or least development; whether to stimulate the powers that excel, to their highest possibilities, or to emphasize drill on the weaker part."

The mental traits of the adolescent indicate quite clearly what should be the essential characteristics of the studies chosen. They must be reflective and comparative, to accord with the newly born capacities. The increased nervous and mental energy must be occupied by studies of increasing difficulty. The interest in speech and language must be met by the study of foreign languages and formal grammar. The emotional life must find its outlet through oratory and the dramatic art. The tendency to introspection and analysis must be satisfied by the disclosing of the inner connections and deeper reasons of the subjects taught. The newly aroused social interests must be fostered by the introduction of social work. The desire to do things must be satisfied by the opportunity for creative work.

The right of constructive work to a place in the lower grades of elementary school is now practically conceded, although the work to be *added* to an already full curriculum. From the standpoint of mental growth, it has an equal right in the high school. While the adult is able to some extent to readjust the central elements of his previous activities, motor experiences in young children are fundamental. The adolescent is in transition from childhood to adult life, and his mental activities are still more or less (mostly more) dependent upon his muscular experiences. And so I repeat, from the standpoint of individual efficiency or control, the industrial arts are essential to the high-school student. Mind is a function of social life. "It is only through the development of the whole race that any one man can develop." These arts are in their very nature social. They have grown out of man's efforts to meet the needs of life. Their development, to quote Miss Clara Mitchell, has resulted "in our present state of society with its sum of *knowledge* and stored up *power;*

knowledge organized into science, mathematics, history, civil law, philosophy; *power* expressing itself as skill in the arts of living—agriculture, manufacturing, commerce, social government, language, literature, and the fine arts."

Economic and social principles have guided the race in the evolution of knowledge. Should not the individual, the unit of the race, apply the same principles? Should we not introduce our young people to the typical lines of *human experience*, not only in industry and trade, but also in intellectual and social activities?

Many things indicate general dissatisfaction with the existing intellectual methods in our high schools. Chief among these is the fact that so many of the brighter students, especially boys, leave school before the end of their course. The complaint, when stated, is that these studies as carried on have no connection with life, that they throw no light on the vital situation which the youth finds facing him.

It is a significant fact that so many are enrolling themselves in technological schools. This movement toward industrial education is not in the direction of commercialism. It is to be interpreted as a demand on the part of students for vital contact with life processes—a direct first-hand knowledge of the factors which control society.

Whatever our individual prejudices on the question of the race problem, we must all acknowledge the insight and genius directing the educational experiment at Tuskegee. There we see an inferior race being raised to a distinctly higher level of civilization—to better citizenship—through industrial education.

In the George Junior Republic, and as near home as Allendale, we see a lawless class of youths through industrial and social organization brought to nothing less than a marvelous degree of moral action. Our technical high schools have proved that boys who have taken the manual-training high-school course enter college better equipped in the academic studies, and at an earlier age than those who have taken only the classical course.

In response to the demand for individual activity, we have introduced handwork into many of our schools. As yet the

general public questions their value and denies their right in the school curriculum. Last fall a prominent lawyer, whose son has been in our school six years, told me that he did not believe in handwork. He thought it all right for young children, had not seriously objected to it before his son entered the eighth grade, but now he wanted him to do *serious* work—meaning by that mathematics, Latin, and English. He expected his son to be a lawyer, and manual training would be of no advantage in that profession. Perhaps, rather doubtfully, it was all right for every boy to know *some* trade, yet none of the boys in the School of Education would ever follow a trade, and he really didn't see why this work had a place in the school.

The gentleman expressed a common point of view regarding social occupations. He perhaps expressed your own sentiments. They are good for young children, for the colored race, the laboring, and the lawless classes. But for your own children you want something more. And in one sense you are right. A smattering of knowledge, a minimum of skill in woodwork, metal-work, pottery, weaving, cooking, gardening, sewing, modeling, drawing, painting, bookbinding, or printing is not educative in the highest sense. Knowledge and skill in the fundamental processes of any or all of them, training for trade, does not necessarily educate. Only when these activities come into the school as vital parts of the curriculum, only when their social value is felt by all the workers, are they a means of education. When the work is broad enough and in sufficient variety to interest every pupil, when it is great enough to use all his powers, when it is connected with nature on the one hand and society on the other, it will be to the children the educational instrument it has been to the race.

It is the social and historic phases which make the difference between work as a trade and educative work, between the artisan and the artist. The one is material, the other spiritual, leading upward to a higher plane of living.

When the youth in the schoolroom is engaged in the activities that he sees going on in the larger world about him, he encounters difficulties which he cannot surmount except by the help of science. So the facts and principles of physics and chemistry

and botany come in to aid in his daily living. He meets problems whose solution leads him to the past. History then throws light on his present, and becomes a living study. The interest in the work leads naturally to a study of the raw materials, to a study of the finished products, to comparison of the various methods, past and present, used in securing these products. It leads to an understanding of the facts and forces of the industrial world, organized industry, and commerce. It interests the students in the lives of other workers in these various kinds of work and their relation to the social whole. It forms the background for all industrial and social history. The pupil comes to all subjects a questioner with problems that have grown out of his own experience. Learning is no longer a matter of *memorizing*. Knowledge becomes the realization of a subject through a living experience; and so constructive work opens up all knowledge, affords training for all the mental faculties, socializes the individual.

We have introduced the social occupations into the school, but we have not yet socialized the school, so that these activities fall into their normal place. And herein lies the weakness of the present situation. A socialized school is one that organizes society to help the individual, one whose chief aim is to develop in the individual the power for and the inclination toward social usefulness.

The socialized school uses gymnasiums, studios, workshops, and laboratories as means of developing a socialized being. It is necessary that the individual should have experience in every one of the fundamental activities which have built up society before he can have an intelligent appreciation of the society. But the work of socialization in the individual is but half done when this fundamental experience has been gained. A further and equally important function of the school, and we have not always done this, is so to organize these various shops, studios, and gymnasiums, that the community life, thus brought about, may in itself call out the highest effort of each individual and return to him the larger culture which rightfully should be his.

The socialized school must organize itself in such a way that the school life is one with the community life, so that the youths are co-operators in the work of the world.

SOCIALIZING THE MATERIALS AND METHODS OF EDUCATION[1]

JOHN A. KEITH

I. Social efficiency of the actual and ideal types, as the dominant aim of education, and, therefore, as the dominant aim of all school work, is acceptable to all persons who are concerned in the process of education, viz.:
   1. The philosophers, idealists, materialists, pragmatists, etc.
   2. The statesmen—who seek social welfare—in office or out.
   3. The public—who pays the bills, and furnishes the pupils.
   4. The politicians—who echo the public.
   5. The schoolmasters—who actually do the work, for it is a concrete and progressively realizable ideal that vitalizes every aspect of school work.

II. The deepest law of human nature is: *One becomes by being.*
   1. Skill grows out of successive and repeated co-ordinations.
   2. Qualities of mind are the outcome of processes.
   3. The possibilities or potentialities bound up in a child at birth become realized or actualized *only by the activities of that child.*

III. These activities of the individual are of two types:
   1. Those activities due to stress from within—unfolding or developing activities.
   2. Those activities due to stimuli from without—infolding or integrating activities.

[1] Syllabus of address given at the Schoolmasters Club, Peoria, October 12, 1907.

Our conception of *cause* should be so modified as to include the mutual interconnectedness of things—sound —pencil—desk—air.

IV. The principle in III (above) yields the corollary that the activity of the mind, whether in the form of development or in the form of integration, is educative.

V. The fundamental problem of education and of the school is so to condition children that through their developing and integrating activities they may progressively become more socially efficient.

VI. The old idea of school work was to select certain *fundamentals* of effective living and present these to the child with the hope that he might some day come to appreciate their value through his use of them.

VII. The present idea of school work (or, at least, the one to be defended this morning) is to select certain significant aspects of the life about the child and present them in such a way that he progressively grows into a deeper appreciation of them—and thus comes to the *fundamentals*—to the *grounds of his own living.*

VIII. To state the idea differently, a child cannot really *study* anything except in so far as he can, through his own mental activities that are connected with it, secure *significance*, and significance is meaning, is felt mental relationship.

IX. The life of the child is inevitably matrixed in social relationship (even the nature about which he cares most is that which is connected with social uses and social estimates), and the greatest growth of the child into social efficiency is clearly in building up a wider and deeper significance (to him) of those relationships that radiate from his present social life into the life around him. (The line of least resistance is also the line of greatest educative effort.)

X. The so-called "subjects" of the curriculum are social products—are aspects of a past and existing social life,

and have their values for education because of the increased social efficiency which their mastery confers on one.

XI. It follows (from the two propositions just preceding) that the "subjects" of the curriculum should receive an organization which is social and psychological rather than logical. This means that the child should approach the subject from that aspect of it which connects himself with others, and should proceed in it in accordance with his own ability to gain increased significance. (Wherever there is a priority of relationship which is necessary to mastery, the social and psychological organization is also logical.)

XII. The logical organization should be a secondary movement by the child, as it has been in the race, rather than a primary one.

XIII. Only in this way can school education be *genuinely practical* at every stage of its process.

XIV. The primary method of learning, in the race as in the child, is involuntary experience which includes spontaneous, impulsive, and instinctive movements, and suggestion.

XV. The derived form of learning, in the child as in the race, is planned (or purposed) activity, including imitation, invention, and discovery.

XVI. Imitation is the basal form of social transmission.

XVII. Invention and discovery are the basal forms of social progress.

XVIII. Since society is progressive, social efficiency demands that the child become inventive and discoverative.

XIX. The great thing in elementary and secondary education is to bring the child up to the present level of society, by making use of his tendencies to develop and by integration, in such a way that he is efficient and progressive.

XX. What is meant by socializing the materials and methods of education may be illustrated by a consideration of nature-study:

1. Criteria for the selection of materials:
   a) Select materials which reveal the controls which men have developed in their efforts to satisfy their felt needs.
   b) Select laws or uniformities which men have discovered and to which they conform in order that they may the more advantageously satisfy their felt wants.
   c) Select materials which have gained a social significance because of the curiosity and aesthetic activities of men.
2. Criteria for organization of materials:
   a) Begin with that aspect of the material which already has greatest significance to the child.
   b) Proceed in the order of the questions that arise in the child's mind.
   c) Provide for elaboration (working over) so that the temporary mental organization brought about by the child's perception of relationship (catching on, understanding, apperception) may become relatively permanent mental structure.
3. Criteria of method:
   a) Awaken in the child a sense of the value, to self or to the race, of the material to be studied.
   b) Arouse the inventive and discoverative attitudes toward the selected material.
   c) Provide abundant situations which require the communication or expression of the relations learned.
   d) Cultivate through construction (all forms of actual as opposed to symbolic doing) the social values of, the social estimate of, and the social attitude toward, the materials dealt with.

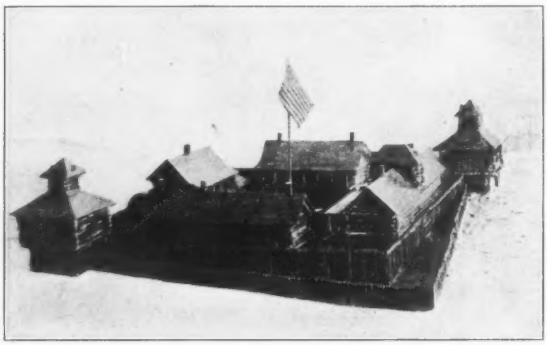
HISTORY OF CHICAGO. II

PEARL BACKUS CARLEY
Third Grade, Francis W. Parker School

CHICAGO OF LONG AGO

THE FIRST INDIAN TROUBLE

One day some Indians went into the Lee cabin frowning. Usually the Indians say "How." These Indians looked very cross and did not say a



MODEL OF FORT DEARBORN AT CHICAGO HISTORICAL BUILDING

word, but kept on frowning. The people in the Lee house were frightened. Two of them ran to the fort as fast as they could. They stopped at every house they passed and told the people to run to the fort. When they got to the fort they talked the matter over and decided what they had better do. And there was no more trouble.

THE MASSACRE OF FORT DEARBORN

In 1812 word came to Captain Heald to vacate Fort Dearborn and leave for Fort Wayne, as the English had already captured Detroit. Captain didn't think it safe enough to go alone for fear of an attack. Next day he held a council with the Indians and asked them to take him safely to Fort Wayne. He promised them all the ammunition in the agency house, and even more. That night everyone was so discouraged that Captain Heald himself saw what he had done. The following day when the Indians came to get the ammunition Captain Heald said he did not have time to give it to them. They decided to destroy everything and wanted time to do it. The

Indians knew at once that he meant to keep them out of it. At night they got as near as possible to the fort; they could smell the liquor in the river, and could hear the soldiers throwing the ammunition into the well. The next morning all started out along the lake shore. It was all right until they came to some sand dunes. Then the Indians went behind the sand hills. Some of the men noticed it. They told the others to get ready to fight. The chief of those Indians was Black Partridge. He once had received a peace medal from the government. The morning they left he went to the fort, put the medal on the table and said, "I tried my best to keep peace, but my warriors want to fight." An Indian had told Mr. Kinzie to get into a boat with his family. Mr. Kinzie put his wife and children in the boat. He said, "I am going to stay with the others. If something happens I want to help." In a little while the Indians started to fight. Many were killed. Mr. Wells said to the Indians, as they were going to kill the women and children, "Shame on you to fight against them. If you do that I shall go to the fort and attack your squaws and papooses." He went away. Some Indians followed and killed him. As one Indian was attacking Mrs. Helm, Black Partridge came and took her to the lake and held her in the water up to her neck. He pretended he was drowning her. That is the way he saved Mrs. Helm. The Indians afterward burned the fort, but Mr. Kinzie's home was not hurt. The prisoners were taken to Detroit and ransomed.

HILDEGARDE PABST

PROBLEMS OF TRANSPORTATION, WATER SUPPLY, AND DRAINAGE

PART II

AFTER THE WAR OF 1812

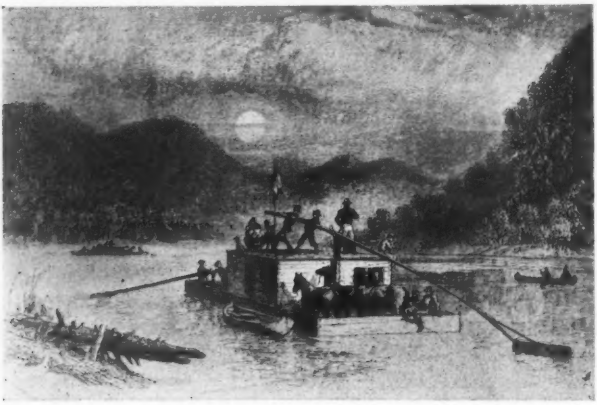
After the war of 1812 the soldiers spread the news all over the country of Illinois' good farming-land. They told about the good location Chicago had, about its good soil, vast prairies, and good timber land. Chicago had good waterways. You could travel from the Gulf of Mexico up the Mississippi River, up the Illinois River, up the Desplaines River, across the Chicago Portage, and through the Chicago River into Chicago When the people in the East heard about the good land for raising corn, wheat, and oats, people began to come to Illinois. In 1816 Captain Bradley was sent to rebuild Fort Dearborn. This time the fort was much larger than it was before. The logs that were used the second time were hewn. The government, meanwhile, had a treaty with the Indians for canal land. They were going to make a canal across the Chicago Portage. The people in the East thought what good waterways Chicago would have, and began to come.

GILBERT S.

FLAT BOATS

Some of the people built flat boats and keel boats and came down the Ohio River. When they came to a place they liked they stopped. Some-

times they would take their boat to pieces and build their cabin out of it. If they wanted to go up the Mississippi River they took a rope and put it around a tree ahead of them, and then they pulled up to that tree, and then they put



FLAT BOAT

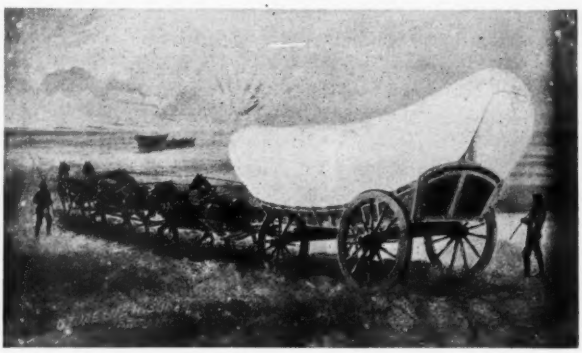
SETTLING IN ILLINOIS

the rope around the next tree, and pulled up to that, and so on up the Mississippi River. They had to do this because they were going against the current. They would do this until they found a place where they wanted to stop. Sometimes they would go into the woods and cut down trees and build their houses.

JAMES F.

TRAVELING IN PRAIRIE SCHOONERS

When people traveled in prairie schooners they sometimes went through woods. The men had to get out and chop down trees and make their own



TRAVELLING IN PRAIRIE SCHOONERS

roads. Sometimes they had to wade through streams. They stopped wherever they liked the location, where there was good farming-land, and usually near a stream.

SARAH G.

TRAVELING FROM BUFFALO

A tired party in two prairie schooners were going slowly along the lake shore on their way to Chicago. They had covered about 500 miles, having come from Buffalo. Three young men walked by the side of the wagons. Their clothes were spattered with mud and they looked as if they had more than once put their shoulders to the wheels. The roads were very bad, it seemed as if they had been out of one mud hole and into another all day. The horses looked as if they were pretty well tired out. The lighter of the two wagons was drawn by one horse. The heavier wagon was drawn by two horses. They had just left a tavern and had forty-two miles to go before they could reach another. They were going to travel along the lake shore near the sand. They unhitched the two horses from the heavy wagon, and had them pull the lighter wagon over to the shore, down where the sand was packed. It was easier to pull there. It was three o'clock in the afternoon before the large wagon overtook the small wagon. The old horse could go no farther, all urging could not make him move another step. Then they decided to turn the old horse loose.

A storm was coming up, the sky looked threatening, and they decided to have supper and camp for the night. They had hardly sat down when the threatening storm broke over their heads. They gathered all the food they

could in the short time they had, and jumped into the prairie schooners. The three young men got into the smaller wagon. They thought they had the best of it, because that wagon carried the mattresses and blankets. But toward morning, the cover blew off, and they were drenched with rain before they got it back.

In the other schooner the people sat opposite each other and all were holding on to the cover to keep it from blowing away. The next morning they prepared breakfast; it was not easy to get because all the wood was saturated with water. They left the heavy wagon upon the beach, with all in it that they could spare, and pressed on with the smaller wagon.

They had written to a friend at Chicago to meet them with some oxen, and they were hoping that soon they would have the oxen to help them.

TRAVELLING IN A SLEDGE.

That day the friend did meet them with his oxen. It was easier to go along then. The two horses were almost dead, but they were not so tired but that they could help the oxen. They all reached the tavern.

The next morning the three young men went back with the oxen and horses for the schooner that they had left behind. At night they were in among the sand dunes and had to sleep in two inches of snow for a change. They had some pine twigs at their heads and a roaring fire at their feet. They rolled up in blankets and slept finely. They found the wagon the next night, just as they left it. They ate slap-jacks and honey for supper, and had a good time of it.

TYLER P.

TRAVELING IN A SLEDGE

Long ago in winter people used to ride in sledges instead of sleighs. Oxen pulled the sledges.

MARGARET P.

TRAVELING IN AN OX CART

Mr. Beaubien came from Detroit in an ox cart. He had an Indian to guide him. He got knocked around because it was so humpy and the cart didn't have any springs.

JAMES F.

OX CART

PACK HORSES

TRAVELING ON PACKHORSES

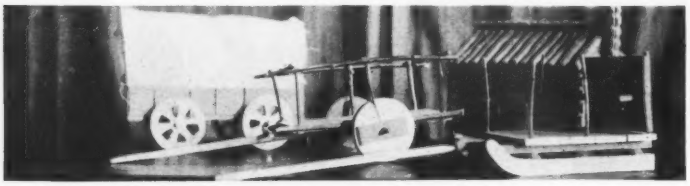
A family was traveling from the East on packhorses to Chicago. Mr. King was walking in front with his dogs, and carrying a rifle. His wife was riding horseback. Behind her on a horse were some pots and dishes and things that were needed for cooking. They did not take any meat with

them. They only took salt and cornmeal, because Mr. King expected to get meat by shooting deer or wild turkey in the woods. There was a small path that they were following, which was called an Indian trail. Another horse was tied to the back of Mrs. King's saddle. One packhorse carried a rake, a piece of iron for a plow, and small farm tools. These things did not have handles, except the hatchet, which was used on their way to cut firewood. One horse carried two baskets, a basket on each side. The baskets were filled with bedclothes, and in a hole in the middle of them the children sat. Other packhorses carried household goods. The hired man walked behind, to see that nothing was lost, and he also kept the cattle together.

GILBERT S.

MR. AND MRS. KINZIE'S TRAVELING EXPERIENCES

Mr. and Mrs. Kinzie started from Detroit to Ft. Winnebago. Mr. Kinzie was to have charge of the Agency House there. They took a steamer



MODELS MADE BY THIRD-GRADE CHILDREN

and were much pleased that they were not going to travel in a schooner, as some of their friends had done, and were three months going from Detroit to Chicago. Even now a sailing-vessel can sometimes cover that distance in four days. I think our boats must be built in a very much better way nowadays.

HAROLD W.

They had a pleasant trip for the first twenty-four hours, but a storm came up and the rain was so severe that it made its way through the seams of the deck, and everything in the ladies' cabin was saturated. They went to the gentlemen's cabin, but it then began to rain there, and they had to get into the berths. Their dinners were served to them on their pillows. The gentlemen chose the dryest spots and sat around under umbrellas. They finally reached Mackinaw, and afterward went on to Green Bay.

FRANK P.

There a boat came for them from the fort. These Mackinaw row boats, as they were called, were thirty feet long. The center was a framework of posts covered with canvas, which could be let down at the sides and ends. A mattress was placed in the cabin and could be used at night if too unpleasant for camping.

HELEN S.

Mr. Kinzie took with them three Canadian boatmen, besides the crew of soldiers. These boatmen helped take charge of the boat, put up tents, lighted the camp fires, and prepared the meals. They usually dressed in tanned deer skin and wore red sashes and caps. JOSEPHINE P.

On their way they came to many rapids. If the rapids were very swift, the boat and baggage had to be carried to shore and on to smooth water.

MARION C.

Sometimes in rather shallow water the boat would get fastened between two stones. Then the men would all have to jump overboard and push and pull until the boat was released. Then they would get in and go on rowing in their wet clothes. LUCY S.

If the rowing and work was very hard they rested often. The French Canadians always smoked while resting. It was the custom for them to stop every six miles to rest and smoke, so in measuring distances it was so many "pipes" instead of so many miles. JAMES B.

When the rowing was easy they often sang funny little French songs, and the oars kept time to the music. Sometimes they sang:

Row, brothers, row, the stream runs fast,
The rapids are near, and the daylight's past.

KATHERINE T.

At night when they camped the boatmen pitched their tents, collected wood for the camp fires (they had no matches in those days but used flint and steel), and prepared the supper. The Frenchmen knew how to make delicious coffee. They broiled ham, using forked sticks, and made toast, bringing it fresh from the coals. They used tin plates and tin cups. Mrs. Kinzie enjoyed these suppers very much. Being out of doors all day and so thoroughly enjoying the scenery and the trip gave her a good appetite.

OWEN W...

They reached Ft. Winnebago after having traveled eight or nine days, and now that distance can be covered in four or five hours.

ROBERT M.

After Mrs. Kinzie had been at the fort many months she decided to visit their relatives in Chicago. They started one March morning. All were horesback, a packhorse carried the provisions and blankets, and each traveler carried his own hunting-knife. A tincup was fastened to each saddle, as no mess-basket could be taken. A canoe was put in an ox cart, which was to take them over a stream and a marsh beyond, which at that time of the year was covered with water. DOROTHY W.

The stream was crossed in safety, then they came to the marsh. Mrs. Kinzie's trunk and saddle were placed in the canoe. She got in and sat on the trunk. Just as Mr. Kinzie was going to push off and jump in, the two hounds, not liking to go through the cold water, gave a spring and landed on Mrs. Kinzie, upsetting boat, trunk, Mrs. Kinzie, and all. Mr. Kinzie then thought it best to carry her over like a papoose. She did not stop to change her clothes, but rode on to a suitable camping-place.

MILDRED Z.

The tent was pitched and furs were spread down, and Mrs. Kinzie got into dry clothes. Her riding-habit was taken to the fire to dry, but it froze stiff, looking as if the lady had mysteriously disappeared from it.

DORIS H.

OLD FASHIONED FLINT AND STEEL

The weather grew colder, and before the horses could swim across the streams the ice had to be broken with an ax. One of the guides would mount a horse and reach out in front of him and break the ice so that all of the horses could swim over.

FREDERICK G.

One night it snowed and the wind was so strong. and the snow so heavy that the tent poles broke, and down they all came on Mrs. Kinzie. She had never traveled in the West before and was not properly clothed. She started with a straw hat and kid gloves. The wind was so cold that she used her husband's silk handkerchief for a veil.

FRIEDA M.

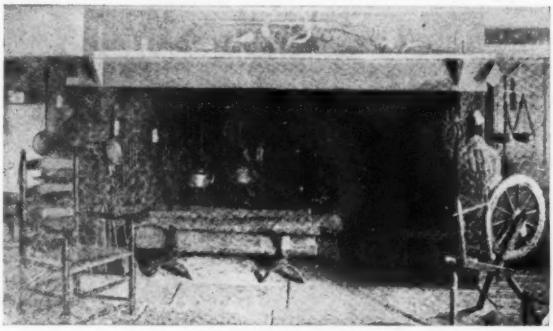
Sometimes they were able to stop at a cabin over night. One time they lost the trail and provisions became very scarce, but they found an Indian

who guided them the rest of the way. They were all very happy when they finally reached Chicago.

CHARLES W.

STORIES OF VILLAGE LIFE

In the early days of Chicago the people did not have the conveniences that the people have today. They did not have the daily mail, but they did



OLD FIRE PLACE

COUNTRY STORE

have a mail carrier who came from different towns. He had to camp out on the way, and kill birds and game for his meals. New York papers were two months old when they reached Chicago, but people were glad to get them. The matches were used as curiosities, and they used flint and steel to light their fires.

JOSEPHINE P.

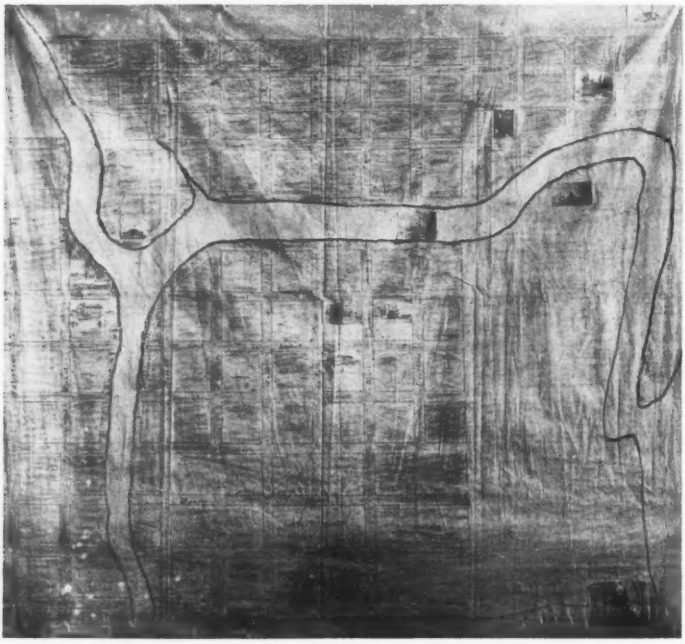
OLD-FASHIONED FIRE-PLACE

They used this fire-place in olden days for heating the house and for cooking. They baked their bread in a baking-pot, and hot wood ashes were put on top and under it.

DEDRICK P.

A COUNTRY STORE

Usually at a country store they sell a little of everything, dry goods, groceries, and sometimes mail would come there too. People would come to



MAP OF EARLY CHICAGO

the store to get the mail, and sit around the stove and talk. Some of them would not get any mail, then the others would read theirs out loud.

MARGARET P.

STREET PROBLEMS

THE FIRST MAP OF CHICAGO

A long time ago the streets were crooked and muddy. The streets wound about from house to house. The people picked out the driest spots on which

to build their log cabins. In 1830 the government sent surveyors to survey the canal land. They made the first map of Chicago, and the streets on the map were nice and straight.

SAMUEL B.

CHICAGO STREETS

Chicago was built on swamps. The streets were very wet and muddy. Sometimes wagons full of goods for the Chicago stores would get caught in the mud. The people said, "We must have better streets." One man said, "Have the streets slope to the river, and plank them." They did this. But when it rained muddy water settled beneath the planks, and when a team of oxen would step on one of the planks dirty water was splashed all over. Then a flood came and washed away the planks. This plan did not work. Then they said, "No more digging down for us."

HELEN B.

LIFTING CHICAGO OUT OF THE MUD

Chicago was unhealthful. The streets were bad. The people tried to fix them. Mr. Chesbrough's plan was this. He said, "We must raise the streets."

STREETS OF EARLY CHICAGO

The people laughed at him, but after a while they thought it would be best to follow his plan, so they did. Just at that time they were widening the river, and the dirt that was taken off from widening the river was used to make the streets higher. Some of the houses were raised up to the new street level, and some were not raised. So they had to have steps leading up and down.

MARGARET P.

OLD PLANK ROADS

At the time Chicago's streets were so muddy very few farmers came to bring in goods. So people said, "We must make better country roads too." They leveled the dry places. Most of these roads had been trails made by

the Indians in traveling. These trails after leveling were planked. The man who had given the planks and who was to keep the road in good condition would put up a toll-gate. Wagons would be stopped by a pole across the road. The gate-keeper would ask for money. That money was used to keep the roads in order.

HILDEGARD P.

ILLINOIS AND MICHIGAN CANAL

People of Chicago said if Chicago had a canal their trade would be better. So the government bought the Chicago Portage from the Indians. The government sent surveyors to divide the ground into lots. These lots they sold to people who wanted to buy land. With the money the government started to build the canal. But alas, there was not enough money, and the banks failed all over the country. They left the canal, and weeds grew in it. Several years after the banks failed some rich men said to the government, "We will pay for the canal, and all the boats will have to pay toll until we get back as much money as we have spent. Then you can have the canal." The government said they could do that, so they hired some workmen and the work began again and in a few years the work was done.

FOWLER McC.

WATER SUPPLY

RIVER WATER

Years ago the river was so clear that you could see yourself in it. The water was blue and sparkling, and good to drink. People built little piers out into the river. They took wooden pails and went out on the piers and dipped the water up. But people grew careless after a while and threw garbage into the river. Then they could not drink the water. They felt they must get clean water to drink, and to cook things with.

LUCRETIA C.

SWEEP WELLS

People tried many ways to get water. The sweep wells were one way. But after a time that failed. The people grew very careless and threw their garbage and dishwater and other impurities on the ground. These impurities sank into the ground and spoiled the wells. Chicago looked very funny in those days. The sweep wells were a great deal higher than the houses.

MATILDA D.

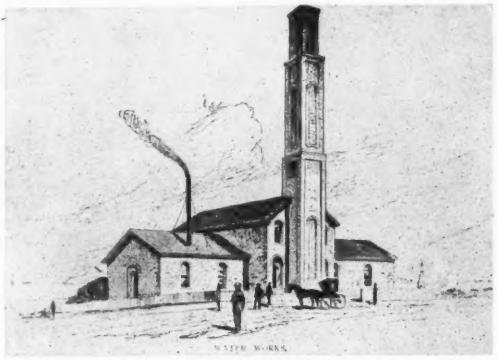
WATER CART

A man said, "I know how to get pure water for Chicago. Why, there is plenty of pure water in Lake Michigan." People said, "Then get us pure water." So he got a hogshead and put it on a wagon. He went to the lake every morning, filled his barrel and drove around town. Ladies came out and said, "Fill my barrel." But too many people came to Chicago and the water wagon could not suppy them all.

SARAH G.

WATER SYSTEM—LOG PIPES

A company thought they could make money pumping water to the different houses. They built a pier 150 feet out into the lake. They laid pipes on the top of the pier. They turned the end pipe down into the water. The pipes were made of logs with holes bored in them lengthwise. They had an engine on shore to pump the water into a tank. Then it was pumped through the wooden pipes underground to the houses. This plan did not work well because the water was taken from too near the shore. Little fish came



OLD WATER WORKS

through the faucets, and little sticks that were floating in the water. The people had to pay for this water, and some were too poor to buy it. So some drank from their old sweep wells, some took from the river, and some still bought from the man with the water cart.

ARNOLD H.

FIRST CITY WATERWORKS, OR GETTING CLEAR WATER THROUGH A TRENCH

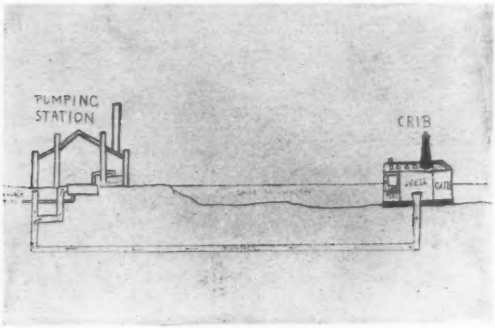
After the pier plan for getting water failed the people thought that if the city paid for good waterworks the water would be better and cheaper. Then the city hired some engineers. They worked for three years. They built a trench on the bottom of the lake. They turned the end of the pipe up, instead of down. When they finished it they built a crib over the bent-up end. They had a waterworks with a pump. Then they built a big brick tower. Then the engineer started the pump. It was a happy day for the people, because they thought they were at last going to have good water.

FOWLER McC.

SECOND CITY WATERWORKS

After Mr. Chesbrough had built the tunnel and crib the people thought they would have pure water. But the sewers emptied into the river and the river emptied into the lake. The new cribs were built farther out into the

lake but still the water was not pure. The people said, "We must dig a drainage canal so the river will flow backwards and take the sewage down the canal. Then the lake and river will be pure and clean." The drainage canal was a great success for Chicago. It did its work and the water was much better than before. But still the water is not pure, because the sewers



PLAN OF CRIB AND TUNNEL LEADING TO PUMPING STATION UNDER LAKE MICHIGAN

empty into the lake up north and the current of the water sends the sewage down. There are people who examine the water from the different pumping stations, and the newspapers tell when the water is impure, and suggest boiling or filtering.

GILBERT S.

BEACHES

Almost all the beaches along the north shore of Lake Michigan are on the north side of the piers. They are on the north side because the current comes from the north. It is farther out in the lake and brings great masses of sand in and the waves take it to shore. The people wrote to the government that the old mouth of the river was too shallow for boats to come through.

HILDEGARD P.

CHICAGO HARBOR

The river used to empty into the lake at Madison street, but the current of the lake brought sand into the mouth of the river. There was a long sandpit there. After a while the government sent men to cut a channel through. But that was not successful. The sand drifted in, and men were constantly dredging it out. Then the government built a government pier running east and west. But still sand drifted in. Then they built it longer. The government built another pier, running northwest and southeast.

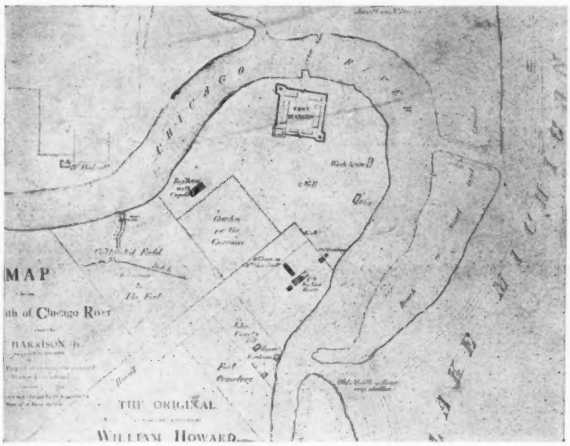
MARGARET P.

OUR RIVER TRIP

We got on a little launch called Chicago and went out to see the harbor. We saw the lighthouses and life-saving station, and the oldest slip. The boat turned and we went up the south branch of the Chicago River. We saw many grain elevators and lumber yards. We visited one of them. We saw the old Illinois-Michigan Canal, and the Drainage Canal.

HELEN B.

We saw some canal boats that were used on the Illinois and Michigan Canal. They were used long ago for carrying freight, and sometimes for



CHICAGO HARBOR

traveling. Then they were drawn by horses which walked along the bank. We saw one boat loaded with coal. Now the canal boats are drawn by tugs. Long ago the farmers brought all their grain to the city in wagons, but the roads were so muddy that the wagons got stuck. The canal was built so that things could be carried to market by water. In this way Chicago got much more grain and that helped Chicago to become a great city.

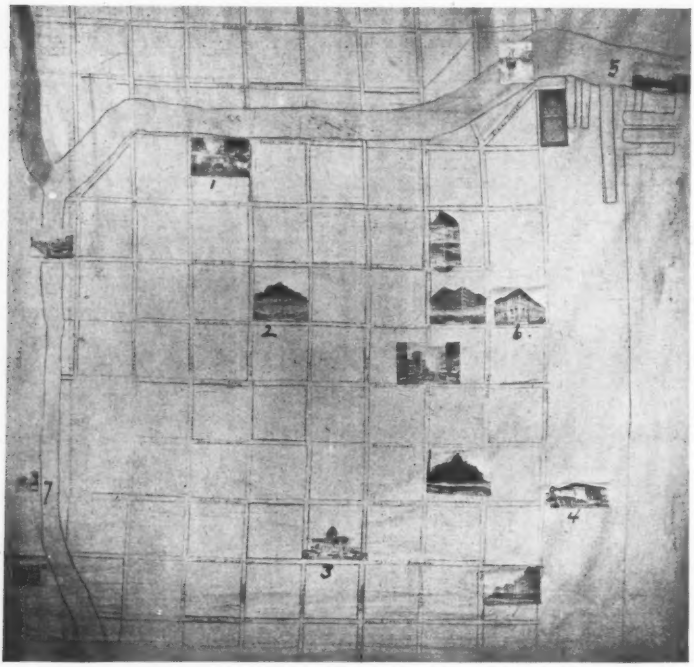
HILDEGARD P.

When our launch passed the place where the north branch joins the south we could see a distinct black line across the river. The north branch is all oily and bad. The south branch is lake green. Years ago all the river was like the north branch is now. The river used to flow into the lake, and made the drinking water impure, so Chicago built the Drainage Canal. The canal is six feet deeper at the west end than at the east, and is about twenty feet deeper than the lake. There is a plan to clear out the north branch. All the

sewers on the north shore empty into the lake and the current brings it down here. The plan is to dig a big canal that will empty into the north branch and make a current, so as to clear it out.

We saw a few flat boats loaded with dirt coming from the north branch They are making the river wider.

FOWLER McC.

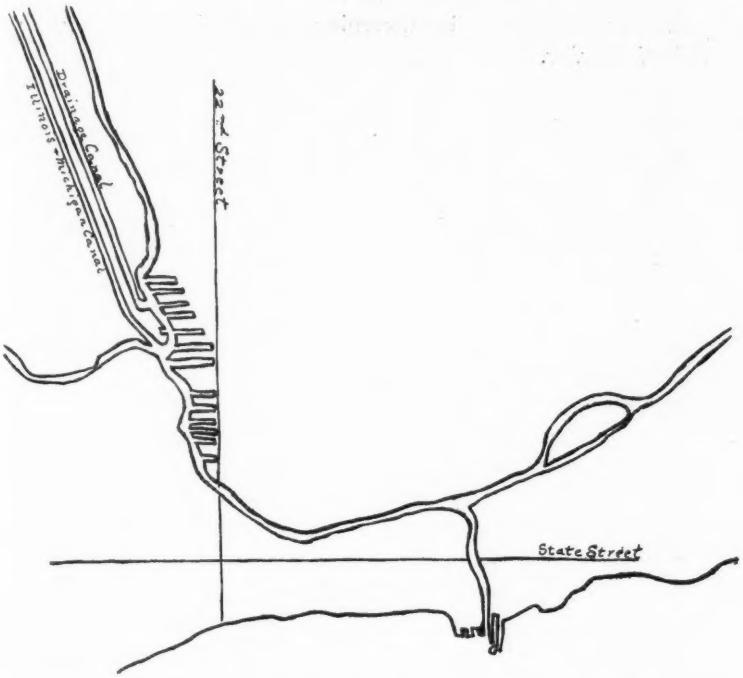


MAP OF CHICAGO AT PRESENT (PICTURES CUT OUT AND PASTED ON BY CHILDREN) 1 South Water Street; 2 Court House; 3 Post Office; 4 Art Institute; 5 Warehouses on River; 6 Public Library; 7 Union Depot.

In selecting the foregoing material from the work of the children, the purpose is to show rather fully what has been done along a few selected lines, transportation, water supply, and the various street problems. As the study of Chicago has seemed to be well adapted to stimulate the interest and activity of the third-grade children, it has been a subject of study in that class for

several years. Each entering class has the benefit of what has been done by the preceding class, and also the incentive to leave something well worked out for classes to come.

The eighth grade has for several years also worked upon certain phases of civic development in Chicago, and thus—by



means of morning exercises—have kept the interest which has been awakened alive and growing in the children's minds throughout the entire school course.

It has been impossible in this article to show the full scope of the work. The use of the stereopticon, for taking imaginary trips to the swamps, on the lakes, to the Drainage Canal, and the actual trips to industrial centers, and the use of supplementary reading-slips can only be suggested. The work in construction, such as the making of flat boats, prairie schooners, sledges, ox

carts, and trains, has been omitted; also the experimental work, although the experiments in connection with the purification of water, and those in connection with illumination—such as candle-making, generating gas, collecting gas, piping to the houses—are most valuable and educative experiences. A description of the work in construction, as given by the children in a morning exercise, will follow in the succeeding number of *The Elementary School Teacher.*

READING FOR LITTLE CHILDREN.—PART III

ELSIE AMY WYGANT
Second grade, University Elementary School

The six reading-lessons in this and the January number complete the series outlined in the October issue. Five are stories taken from Stanley Waterloo's "Story of Ab," published by Doubleday, McClure & Co., New York. These are not continuous, being Nos. 2, 6, 7, 8, and 9 of a series of these adaptations. The remainder, Nos. 1, 3, 4, and 5, were published in this journal, January, 1907.

It is with every apology that these are offered, and only in appreciation of the fine literary quality and dramatic element in the original were they ever attempted. These very elements are the qualities to be desired in even the beginnings of reading for little children, because they give a motive sufficient for, and a value equivalent to, the immense effort which a child puts into his first reading. Therefore with no desire for originality, and only a hope of retaining something of Mr. Waterloo's spirit and so much of his forceful phrasing as the demand for simplicity would allow, these sketches were constructed.

To use them isolated from the original text would be deplorable. The plan is to read Mr. Waterloo's story to the children sufficiently so that they get into the spirit of the thing. Then instead of reading, or before reading, one of these incidents or situations, such as "Meeting a Hyena," "Old Mok," etc., the children are given one of these adapted sketches to read.

The desire to know more of a story which they have gotten into furnishes motive for reading, the rapid action and short sentences adapt them to children's ability, but they are valuable only because suggestive of the larger, richer background which the original story holds.

The "Story of Zitkala-Să" is taken in much the same way

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CIRCULATING DEPARTMENT

from her own article published some years ago in the *Atlantic Monthly,* entitled, "The Story of My Indian Girlhood." In reading the article I was anxious that children should get that sense of first-hand knowledge given as simply and picturesquely as Zitkala-Să herself gives it, and to that end the following is retold, using wherever possible the language and phrasing of the original.

THE STORY OF ZITKALA-SĂ

A tepee of weather-stained canvas stood at the foot of some hills.

A path led gently downward to a broad river.

Here morning, noon, and evening my mother came to draw water.

Always when my mother started I stopped my play to run along with her.

I was a wild little girl of seven.

I wore a slip of brown buckskin.

I was light footed, with a pair of soft moccasins on my feet.

During the summer my mother built her fire in the shadow of our tepee.

In the early morning our breakfast was spread on the grass west of the tepee.

My mother would sit by the fire and toast the dry meat.

It smelled good as it toasted.

I sat upon my feet near her eating my dried meat with bread and drinking strong coffee.

We were alone at breakfast.

At noon anyone who happened to be passing, stopped and ate with us.

But I loved best the evening meal.

That was the time the old stories were told.

When the sun hung low my mother sent me to invite the old men and women to eat supper with us.

I ran all the way to their tepees.

When I reached the door I said, "My mother says you are to come to our tepee this evening."

"Yes, yes, gladly I shall come," each replied.

I ran back skipping and jumping.

I told my mother, "Yes, yes, gladly they will come."

When they came I sat close to my mother.

We sat around the open fire.

When we finished eating, each in turn told a story.

I put my head on my mother's lap, and lay flat on my back and listened.

I watched the stars as they peeped out, one by one.

The old people said funny things and we all laughed.

Then we heard the wolves howl.

I was frightened, and got into my mother's lap.

She put more sticks on the open fire.

Then the bright flames leaped up higher.

I saw the faces of the old folks as they sat around in a great circle.

An old woman was telling a long story.

I fell asleep before the story was finished.[1]

[1] The stories which this daughter of the Dakotas heard are retold by herself in *Old Indian Legends*, retold by Zitkala-Să, published by Ginn & Co.

MEETING A HYENA

It was a long, long time ago that a little brown baby lay asleep in a forest.

He lay on a bed of leaves under a beech tree.

When he awoke he began to cry.

His mother ran to him and tossed him in her arms.

He crowed and laughed and kicked his feet.

Suddenly she heard a sound.

She listened.

Then with her baby, she leaped and climbed into the beech tree above her.

She reached its high branches just in time.

Below her rushed a horrible wild beast.

It snarled and smelled the ground as it ran.

It was a dirty brown color, striped with a lighter brown.

It had a black nose like the snout of a hog.

Great fangs stuck out of its jaws.

I was a hyena hunting for food.

It was well that the mother and baby were safe in the tree.

There in the tree the mother laughed as the wild beast leaped toward them.

She knew that they were safe but her baby, little Ab, was hungry.

So she sent a strange call through the forest.

A call came in answer.

Again and again she called.

Nearer and nearer came the answer.

Soon the father came in sight.

He was not walking on the ground but swinging from branch to branch along the tree tops.

He knew by the call that there was danger below.

When he reached the beech tree he swung down beside the other two.

In his belt was a great stone axe.

He saw the hyena leaping below.

He too laughed at the wild beast.

He too knew that they were safe in the tree, but it was time to go home.

So he broke a great limb from the tree.

With this club he struck the beast as it leaped upward.

Then he swung down from the tree and killed the hyena with his stone axe.

Now they were safe.

Father and mother and baby went off through the forest to their home in the cave.

OLD MOK

As Ab grew older a little brother and sister came to live in the cave too.

The brother's name was Bark and the little sister was called Beechleaf.

One day when Ab was about ten years old, someone else came to live in the cave.

This was a man who was bent and old.

His hair was grizzled and his beard was short and stiff.

Below his skin robe, one of his legs was twisted and it was shorter than the other.

Mok was a cripple. He could not travel about nor hunt.

But his arms were strong and his fingers were skilful.

He had been a great hunter when he was young.

In fact he had been crippled in a hunt by a fierce cave tiger.

Now he could not hunt, but he could tell wonderful stories of beasts and birds and swimming things.

And best of all he could make stone weapons.

He could make better weapons than any man in the valley.

Therefore each man wanted him to come to live in his cave.

So old Mok had lived first with one and then with another.

But now he had come to spend the rest of his life with his old friend One-Ear.

Ab liked him at once, and Mok grew to love Ab more than anyone else in the world.

WEAVING IN THE ELEMENTARY SCHOOL

KATHARINE FRENCH STEIGER
Supervisor of Domestic Art in the Schools of Rochester, N. Y.

It has been truly said there is nothing new under the sun. As teachers and educators we plan year by year new courses of study and gather data from every source, but the most we have done has been to make an application of the principles which Froebel taught to the world before we were born. Broadly considered, standards in education at the present time are practically the same.

We agree that the development of the individual parallels that of the race; that the child is a distinct entity and not in any sense a diminutive adult; we translate subject-matter into terms of value, and in attributing to studies their relative worths, we regard the present as well as the future of the individual, or rather, we consider the present and hence the future of the individual. Method too is a determining element in the value of a study, for the worth of any instruction depends largely upon its manner of presentation. We note the dual nature of the educational problem; sociologically, the relation of the individual to society, and psychologically, the relation of the individual to himself. Notwithstanding all these signboards along the pedagogical way to avert a marked deviation from the true course, every traveler in a sense makes his own pathway, showing footprints distinct and individual. Each year, each section of country, and each pupil present problems which demand of the teacher careful consideration and tactful planning. The unquestioning acceptance of past standards do not lend themselves to open-mindedness and individual initiative. No one has entirely reared the superstructure of education needed today, so even the humble worker in a limited field can make observations which may furnish a contribution to the general good.

It is in this spirit that I enter a plea for handwork in the elementary school which will be vital and far reaching as an

ethical influence. Generally speaking, one need no longer question the value of manual work or its claim to a stimulation of the mental faculties. Of course, I mean manual exercises which are not misfits, but logically based upon principles which make them of the highest possible value.

The one exercise however which seems to have been assigned a lower place than it merits in the scale of relative values is weaving. Of all the occupations for little fingers, with the exception of clay-modeling, there is none it seems to me which appeals to the child's interest and develops sustained application more fully than simple textile weaving. We recognize its value as a social occupation, we know that racial development has been along this line, that it is the earliest industrial art practiced by primitive peoples, and that pottery and textile remains are the books which reveal to us the life-history of a dim past. We know also that well-chosen exercises in weaving afford an opportunity for the child's initiative, choice of material, taste in color, originality in pattern; in other words, that they offer an opportunity for real development to the maker, through self-expression, after having acquired a small degree of skill of hand. Further, that textile materials and processes properly handled bring the user into contact with the industrial and geographical sources from which they come, giving much information in regard to the origin and meaning of the things made and the materials used. So the exercises given in the schoolroom by an alert teacher mean more than the making of a series of articles. An important part of the training lies in thus bringing before the child concretely much of the number-work, history, geography, and literature, which it interprets and makes applicable to the life of today.

It is interesting to note that teachers in various parts of our country, working independently of each other, have come to practically the same conclusion, namely, that clay-modeling and textile weaving furnish the basis for a systematic course in industrial work that shall be a means for helping the children to interpret the steps of human progress and that shall at the same time provide means of gaining an intellectual and practical control as progressive problems are met and solved. When one seeks

some tangible evidence of this foundation, however, the results are not always encouraging. As I have already said weaving seems to have fallen low in the scale of educational values, much of the work being trivial in character and lacking in gradation and variation. Some of the reasons for this are obvious. The large number of pupils which the grade teacher has under her supervision, the difficulty of obtaining suitable materials for the work, the demand made upon the public-school treasury for this purpose, the slowness of the process, the articles made usually requiring time, patience, and a degree of skill not possessed by the average child, all have contributed to this result.

Some of the difficulty lies in our trying to imitate too closely the best efforts of primitive peoples. Rugs of overfine material and belts of rather intricate pattern are attempted in the second grade as well as in the fourth or the fifth grade. Preceding such work should come simpler exercises of course, pliable, inexpensive material leading up to the finer product. Under right laws should we not have a carefully planned gradation from coarse to finer work, the objects made leading up through the primitive to those suitable for school and home use? In the lower grades the textile arts are and should be largely social occupations. The things made should have a definite use and fill an immediate need. But is this a reason why overfine and rigid material should be used? Can we not get something better than paper, reed, splint, and raffia for developing little fingers and little lives? Is the weaving-needle with a spring to clasp flimsy paper strips a better tool than the fingers themselves in the kindergarten and the first grades?

One condition of socialized work is that it shall benefit not only the community but the worker himself. As a social organizer it is primarily the function of the teacher so to plan community work that it will be of the greatest value to the individual child. *What* to do, *how* to do it, and *what kind* of material to use have become the practical problem of today. For little people we must utilize materials soft and pliable, and the first tools should be the fingers. The beginning and the ending of woven pieces, even the simplest, present difficulties to the aver-

age child. So it seems to me as a forerunner the more plastic material, clay, should be used freely in the kindergarten and first grade. The weaving of these grades should be crude, coarse, and free in character. The clothing processes of the cave men, of the Lake-dwellers of Switzerland, of the North American Indian, of the Eskimo, of Hiawatha and Robinson Crusoe, the furnishing of a playhouse and the dressing of dolls, all contribute subject-matter for crude primary work.

If the little people are in localities where they can gather neighborhood grasses, twigs, and husks, and utilize them in their own way, the lessons will be appreciably richer. Familiarity with the sheep, the cocoon, the cotton plant, and flax, with the kind of weaving shown in birds' nests and in the lace tree, with the fine threads spun by spiders and caterpillars will lay a foundation for later work in the higher grades. There the processes of spinning, carding, and weaving, properly understood, lead to an intelligent understanding of the work of the modern machine and some introduction to the great social problems of today—child labor, the sweatshop system, home economics, industrial betterment, and social ethics.

In the schools of Rochester last year an attempt was made to introduce a systematized course of weaving based on educational principles. As these processes stand in close relation to the textile arts, the history of all mankind being implicated with the evolution of flax, wool, and cotton fibers into cloth, the weaving was made a part of the domestic art department. For convenience, however, it is taught to the primary-grade teachers by the special teachers of the manual-training department. The course begins with simple exercises for the kindergarten and the first grade, largely co-operative and closely related to the classwork. In the two lower grades the looms are furnished; they are also shifted from class to class, thus reducing expenditure somewhat. In the third and the fourth grades the pupils construct their own looms and also a crude spindle and whorl. Original patterns and color arrangement are also attempted. The warping is a steady gradation from simple to more difficult, while the spacing is based on the number-work of the respective grades

—one inch, one-half inch, one-quarter inch, etc. There is also oral-language work in connection with all courses. Practice is not confined to a few skilful hand-workers. Each pupil is given an opportunity to make some article of inexpensive material, while those who show skill are allowed to repeat the exercise using better material. By this method expense has been minimized. Waste and labor have also been reduced appreciably by putting into the hands of the grade teacher definite directions for the care, cutting, and distribution of materials. The city of Rochester has a population of two hundred and eighty thousand. Last year the expense of weaving-materials for all the schools amounted to less than five hundred dollars.

No attempt has been made to cover in one year the entire course of study, only one or two exercises, meeting present needs, being attempted in any class. If the child has responded to the purpose of his work, gaining in sympathy, self-control, and responsibility, the making of one object means more than a whole series wrought without this human insight. Social occupations along textile lines in the primary grades have led to special work of an excellent character in some of the grammar grades. Articles really worth while have been made for the home with a minimum expenditure of time and money. So the results are by no means discouraging though the crowded curriculum last year gave opportunity for nothing more than a mere beginning. Even in its incompleteness, the course has been adopted by the Mechanics' Institute of Rochester as a part of the training given students in preparation for public-school service.

The work done in the schools last year is as follows:

First grade.—Book bag (based on the Lake-dweller's fishing-net—an exercise in tying, knotting, and interlacing; looms furnished).

Second grade.—Doll's hammock; doll's muff and tippet (exercises in looping, braiding, and weaving; looms furnished).

Third grade.—Doll's hood or toboggan (measurements of dolls' heads taken and suitable looms constructed); small bath rug.

Fourth grade.—Bath slipper (loom made by child and con-

structed according to individual foot measurement); doll's Tam O'Shanter (based on measurement of doll's head).

Large co-operative pieces along the same lines were made in some classes, and were by no means a tedious occupation.

The complete outline of the course planned, a copy of which is placed in the hands of every grade teacher, is as follows:

KINDERGARTEN

Materials.—Swamp grasses, flat reed, husks, rags, Holland, braid, felt, etc.

Applications.—Rugs, matting, mats, porch curtain, etc. (For this class warp and weft should be free, not continuous.)

Language-work.—Talks on the sheep and wool; on the use of the loom and weaving.

FIRST GRADE

Materials.—Kindergarten materials, roving, coarse yarn, etc.

Applications—Repeat kindergarten exercises, fishing-nets, book bag, braided rag mat woven in circular form. (In this grade, use a continuous warp and a free weft.)

Language-work.—Talks on wool (simple story of raw material found in Poullson's *Child's World,* p. 413); talks on wool-washing and dyeing in simple form. Explain the meaning of warp and weft.

SECOND GRADE

Materials.—Roving, woolen and cotton yarns, twine, rags.

Applications—Repeat kindergarten exercises, fishing-nets, and history, weave dollhouse furnishings, mattings, nets, rags, curtains, bed spreads, table covers, table mats, also doll's muff and tippet. (In this grade use a continuous warp and weft.)

Language-work.—Talks on cotton and hemp; stories of raw material in Poullson's *Child's World,* p. 421. Explain the meaning of warp, woof, and selvedge.

THIRD GRADE

Materials.—Same as for previous grades.

Applications.—Mat made of rags, braided and sewed, Indian belt, marble bag, school bag, bean bag, coarse cushion cover, table

cover, doll's clothes, hood or toboggan based on head measurements. (Construct a spindle and whorl, also a simple loom.)

Design.—Plan a school bag with colored borders.

Language-work.—Talks on flax (*Child's World*, p. 426); talks on carding and spinning.

FOURTH GRADE

Materials.—Any available materials.

Applications.—Purse for small change, handkerchief bag, protectors for large bags, baby socks, bed shoes, tea cozy, child's Tam O'Shanter or hood, rug, porch cushion, etc., set of table mats, cord or raffia. (Construct loom; use heddle or shed stick.)

Design.—Make a colored design of some article to be woven.

Language-work.—Talks on silk (worm, cocoon, raw materal, and manufactured articles. Keep these talks simple).

GRADES V, VI, VII, VIII; OPTIONAL WORK

Exercises.—Original work, study of tapestries, Indian rugs, etc.

Applications.—Textile furnishings for the home.

Suggestions.—Hammocks, rugs, covers for chairs, table, couch or pillow draperies, sets of table mats, woven borders for decorative purposes. Visit woolen mills if possible. (Navajo loom-principles of construction.)

In conculsion let me say that an old story has been retold, but I hope it will come with a new meaning to my fellow-workers. St. Paul's admonition: "Prove all things, hold fast to that which is good," applies here. The educative process is not yet complete. Someone has compared it to a circle not entirely closed. We are giving the child a large opportunity through subject-matter and method to derive ideas from his environment. If we give him an equal opportunity to use these new impulses in uplifting his environment, the circle will be nearer completion. It is no light task to train for a sane citizenship. This is the ultimate aim of all forms of art and handwork that have found a place in the school curriculum.

THE TROLLS' CHRISTMAS

GUDRUN THORNE-THOMSEN
The University of Chicago Elementary School

SCENE I

(*A cozy room. Christmas Eve. The Christmas tree stands lighted in the middle of the room.*

Six children, the father and mother are singing and dancing around the tree when curtain rises.

Song—"This Tree Was Grown on Christmas Day.")

1st Child—Hush! I think I hear St. Nicholas at the door!

(*Children run to the door.*)

All—No, not yet.

2d Child—It was only the wind.

3d Child—I do wish he would hurry up and come.

4th Child—Let us tell stories while we wait.

5th Child—I'll tell you a story. Come, let us sit under the Christmas tree.

(*Children group themselves under the tree. 5th Child recites, "'Twas the night before Christmas, when all through the house," etc., until the line, "I was sure 'twas St. Nick." A loud knock at the door; all the children get up, run to the door calling:*)

All—There he is, there he is; open the door.

(*Enter St. Nicholas nodding and smiling.*)

6th Child—Oh, I'm so glad you have come!

1st Child—We've been waiting so long.

2d Child—Are you cold?

3d Child—You must be tired.

4th Child—Come to the fire.

5th Child (*brushing off the snow from St. Nicholas' coat*)—Oh, you dear, kind St. Nicholas, what have you brought to us?

St. Nicholas (*looking from one to the other*)—Well, have you all been good children?

All—Oh, yes!

St. Nicholas—Then you shall all have *something*, but I have only half as many presents for you this year as I had last.

Children—Why?

St. Nicholas—I came through the North country, there I peeped into many homes and I found children who had little to wear, little to eat, and no Christmas presents at all. I gave half of your gifts to them. Did I do right?

Children (*except 1st and 2d Child, Axel and Lottie by name*)—Of course you did right.

St. Nicholas—(looking at Axel and Lottie)—Didn't I do right?

Axel—Last year I had twenty presents, and this year I'll have only ten.

Lottie—And last year I had thirty presents, this year I'll have only fifteen. The trolls will have a better Christmas than we.

Axel—Yes, I'm sure the trolls will have a much better Christmas than we.

St. Nicholas (*looking sadly from one to the other*)—Very well, if you want to see the trolls' Christmas, come with me. (*Grasping each by the arm, hurries out with them. They resist and call:*) Oh, no, no; let me go, let me go.

(*Children, father, and mother run after them.*)

Father and Mother—Axel! Lottie!

Curtain.

Scene II

(*The foreground of the stage represents a forest, snow on the ground and on the pine trees. Back of the trees, and not seen when the curtain rises, is the trolls' cave. Darkness. Enter St. Nicholas with Axel and Lottie.*)

St. Nicholas—Here you are. I have other and pleasanter business to attend to.

(*Exit St. Nicholas.*)

Axel (*peering around the trees*)—Lottie, where are we?

Lottie—St. Nicholas has left us; we are all alone. (*Wolves are heard howling.*) What's that awful sound?

Axel—O, sister I think it is the wolves howling.

Lottie—Axel, I'm afraid, oh, so afraid, and it is so dark, and I'm so cold.

Axel—Let us see if we can't find a house. Come sister you must be brave.

Lottie—I am so tired, Axel, I can't go far.

Axel (*who has been hunting for shelter among the trees*)—There, look there. I think I see a cave among the rocks. It will save us from the wolves at least. Come, Lottie, come!

(*The forest is removed. Children are seen entering the cave. They scream.*)

Lottie and Axel—The trolls!

Scene III

(*The trolls' cave. Darkness. King and queen of the trolls on thrones. A number of trolls sitting in a circle in front. Axel and Lottie crouching in a corner. Servant passes refreshments.*)

Troll Queen—I like snakes best. Ah, king, this spider was delicious!

1st and 2d Troll (*fighting*)—This snake is mine. No, mine, mine. I'll have it!

3d Troll (*blowing*)—This icicle is hot!

4th Troll—Stop stroking the cat, it makes it so light it hurts my eyes.

King (*rises*)—This is our great holiday. It is getting colder and colder, darker and darker. Soon there will be nothing but ice and snow in the world, and no light at all. Then we, the trolls, shall rule the whole world.

Trolls (*clapping hands*)—Hurrah, hurrah, we, the trolls, shall rule the whole world.

King—Send for the messenger.

(*Enter Messenger.*)

King—What did you see?

Messenger—I saw a faint glow in the east.

King—Go back and watch again.

(*Exit Messenger.*)

King—Let us dance.

(*Trolls caper about in a circle to Grieg's music, "In the Trolls' Hall."*)

King—Send for the messenger.

(*Enter Messenger.*)

King—What do you see now?

Messenger—No light at all, perfect darkness, perfect darkness.

All—Good, good, perfect darkness.

King—Now let us have a merry song.

Trolls (*singing*)—

Oh, who is so merry, so merry hi, ho,
As the gay little troll, hi, ho, hi, ho,
He dances and springs
To the tune that he sings
With a hey, and a hi, and a ho!

(*All turn summersaults. Messenger comes running, face covered by hands.*)

Messenger—Oh, Oh!

Trolls—What is the matter? What is it? Speak, speak!

Messenger—A light in the east! A bright, shining light I saw. It has blinded my eyes, I cannot see.

King—What can that be? Who can tell us what that means? (*Silence.*)

1st Troll—There, see, there are some children from the world; ask them.

King (*beckons to Axel and Lottie. They step before him*)—I can turn you into wolves, or frogs, or snakes if I please, but if you can tell me what that light in the east is, I'll let you go.

Axel—It is the star of Bethlehem.

King—What does that mean?

Lottie—It means that a babe was born this night, and he is the light of the world.

King—What is this baby's name?

Axel and Lottie—Jesus Christ.

(*Light enters the cave. Trolls' moan and fall to the ground turned to stone.*)

Axel—Look Lottie, look, the trolls! The light has turned them to stone.

Lottie (*feeling them*)—And they are icy cold.

Axel—Lottie, what shall we do?

Lottie (*looking and pointing to the light*)—The star, the star shall lead us home!

(*Children walk hand in hand looking at the light.*)

Curtain.

NOTE—The children of the Third Grade of the University Elementary School assisted in the making of this play. They had been studying the beginnings of trade and commerce as seen through the voyages of the early Norsemen, the climate, the character of the country, and the industries and customs of the people today. They had been told something of the Christmas festivities and of the customs that mark the season. They had also been told many of the old folk-tales from which they had gathered the Norse conception of the troll.

The troll takes the place of the Jotuns of more ancient myth. The Jotuns were the spirits of evil; they were known through cold, darkness, and winter death, while the heroes of Asgard were the powers of light, warmth, life, and goodness. When Christianity became the religion of the people the trolls gradually assumed something of the rôle formerly played by the more powerful Jotuns. The trolls are small, mean, mischievous spirits. They are little men, dwelling near to men in the forest or in the hills. The Jotuns were terrible and great, and dwelt afar off in the icy mountain heights. As in the old myth, the smile of Balder could overcome the evil Jotuns, so in later tales the sun or light is the force which can annihilate the troll power; or, as the tales symbolize it, "turn the trolls to stone."

From the most ancient days the people celebrated the coming of Balder, the turning of the sun again to the earth, and the beginning of returning warmth and life. The Christian religion did not utterly reject, but assimilated some of the old customs and reanimated a few of the old symbols in its Christmas festival which falls at the same time of the year as the older festival.

Among the stories told the children were "The Land East of the Sun and West of the Moon," and "The Trolls in the Hedal Forest," as told in

Popular Tales from the Norse, by Dasent. The play is freely adapted from a modern story by Zacharias Topelius.

The music used for the scene in the troll-king's palace is Grieg's "Troll-Dance." The music of the Brownie song is found in Reinecke's *Fifty Children's Songs,* and the Christmas song is "The Christmas Tree," by Myles Foster, and is found in the *Primer,* "Modern Music Series," Silver, Burdett and Co., publishers.—EDITOR.

CHRISTMAS SONG

CHARLES KINGSLEY L. A. COONLEY-WARD

1. As Jo - seph was a - walk - ing, He heard an an - gel sing, "This
2. As Jo - seph was a - walk - ing, Thus did the an - gel sing, And
night shall be the birth - night Of Christ, our Heavenly King; His
Ma - ry's Son at mid - night Was born to be our King; Then
birth - bed shall be nei - ther In hous - en nor in hall, Nor
be you glad, good peo - ple, At this time of the year; And
in the place of Par - a - dise, But in the o - pen stall.
light you up your can - dles, For His star, it shin - eth clear.
Fine.

He nei - ther shall be rocked In sil - ver nor in gold, But
in the wood - en man ger That li - eth on the mould; He
neith - er shall be cloth - ed In pur - ple nor in pall, But
D.C.
in the fair white lin en That us - en ba - bies all

From *Songs in Season*, A. Flanagan, publisher. By permission.

EDITORIAL NOTES

NOTES FROM THE MEETING OF THE NORTHERN ILLINOIS TEACHERS' ASSOCIATION[1]

If the general trend of thought displayed at the recent meeting of the Northern Illinois Teachers' Association is any index of progress in teaching in the section of country there represented, we have reason for great encouragement. The topic was, "Nature-Study and Geography." Both the prepared addresses and the discussions showed a strong movement in the direction of real experience as the basis of all work from primary grades through the high school. Not only this, the speakers who took part in the discussions, almost without exception, urged the organization of geography and nature-study from the human standpoint, and about a large and rich organizing center. The "choppiness" of the old teaching of geography came up for the strongest kind of denunciation. The necessity was emphasized of so enlisting the pupil's interest that problems would arise out of his own desire for meaning and relation.

In the discussion of Mr. Otis Caldwell's paper on "Criteria for the Selection of Material in Geography and Nature-Study," Mr. Charles A. McMurry called attention to the unity from the first to about the fourth school year in subject-matter of nature-study and geography and then said that in discussions too often the general principles of teaching a subject would be laid down and the detail of selection would be left untouched. He said that we must go on from criteria of selection to selection of materials in a course of study; must not be afraid to risk our principles, but proceed to the detail of topics, and the treatment of topics throughout a progressive course. He said that the problem for all teachers was now a practical one, namely, "What is the outcome of theory?" He gave as his solution the conviction that for each school year the work in nature-study and geography should cluster about a few large topics, saying,

[1] Meetings held at the University of Chicago, November 1 and 2, 1907.

The best topics in any study are those that the study in itself is not big enough to hold; children can be most sincerely interested in a big comprehensive subject.

He suggested the topics, "The Farm," "Forest," and "Garden," as offering a combination of manual work and scientific and practical study. The coal industry was given as an example of a study that could be made far reaching in its ramifications, if studied as an organic thing; the transportation, machinery for blasting, hoisting, and weighing, the geography of coal-producing areas, the origin of coal, and the force of the coal industry in determining the whole question of manufacture in this country; the conditions under which the miners live, economic relations. All these gave to the topic great richness. The following quotations give the trend of Dr. McMurry's further discussion:

Any topic worth studying at all is worth studying in three or four different subjects. . . . . If education concentrates, we must pick out our topics not so much with relation to the logic of particular subjects, as with the view of illuminating these large relationships; and any teacher who is not big enough to deal with such a topic in its varied relationships is not big enough to deal solely with any one subject.

The great world is *one,* not two or twenty; this conception is not the only determining one in the selection necessary for forming a course of study, but it is a great one.

The increasing complexity of modern life is responsible for a complexity of studies in their interrelations; the course of study must throw light on these different and complicated social forces; history must show the development of man's institutions; natural science throw light on the application of the great inventions that have revolutionized industry, and art must bear an ever closer relation to modern industrial life.

The content studies all converge at one point, namely, in modern life, and topics must be selected from that point of view.

A growing and developing idea is what children need; every great topic is capable of upward development.

CRITERIA FOR ALL DETERMINATION IN THE COURSE OF STUDY

1. Large topics, reaching out in all directions, into other studies.

2. Topics found in types. Types are concrete problems, realities, but may contain in their development far-reaching generalizations. Illustration: In the study of one great commercial city we have the type of all.

The discussion of the grammar grade and high-school section in the afternoon centered about the paper: "An Outline for a

Course of Study in Nature-Study and Geography for the Period of Adolescence," by Miss Zonia Baber. Both the paper itself and the discussion which followed it showed the same prevailing tendencies as were evidenced in the earlier session. In the absence of Miss Baber, Mr. Wallace Atwood gave a brief analysis of the main points in her paper:

1. Adolescence is a period of enlargement of interests, of adjustment to a larger world. Study should be extensive rather than intensive; should cover a wide range.

2. Problems should arise from the industrial or practical side of school work, and schools should be so organized that these problems would appear naturally.

3. The work in these subjects, as in all others, should tend toward greater social efficiency in the pupils.

4. Reasons for the decrease in numbers electing science work in the high schools.

5. Necessity for fieldwork.

Mr. Atwood said in conclusion that the paper was written on a broad philosophic basis, from the general motive of the establishment of controlling principles.

Mr. John Tear opened the discussion with an expression of harmony with the general point of view of Miss Baber's outline. He confined his attention to points one and two of Mr. Atwood's analysis. He agreed entirely with the idea of approaching problems from the human standpoint and said:

The school should be an organization for activity and should organize interests. The child should have as vital an interest in the processes engaged in at school as the man has in his business. In such a school only, can social efficiency be developed.

I should not quite agree with the statement that work should be extensive rather than intensive; I think it can be both extensive and intensive to great advantage. The medium of the "type-study" gives this possibility. The type-study is so far reaching in so many lines that it gives the quality of extensiveness, while being intensive; in method it is extensive in being interpretative of similar conditions or places. Take, for example, a study of the wheat industry in the fifth grade; the interest becomes immediate and vital while the implications geographically, industrially, and scientifically are very broad.

In answer to the question, Why is science decreasing in popularity as a chosen subject in high school? I would say that considering geography "as

she is taught," very few grammar-grade children would elect it if it were made optional; since no election is allowed there, all take it. Nor should the high school be allowed to elect.

The notion that science is a body of truth, fixed, absolute, and eternal; and the maintenance of a corresponding attitude on the part of the teacher is responsible for a great measure of the lack of interest in geography and science in high schools. If geography is taken up from the industrial side in the fifth grade and is carried out on the same fundamental lines in later grades, the children will begin to be ready by the seventh grade, or certainly by the eighth, for geography *per se*. In the ninth grade geography might be treated somewhat from the logical development of the subject, in the form of physiography, or physical geography. The more abstract sciences would follow.

In the eighth grade the child begins to become conscious of need for some systematic study. He will not get much out of systematic study until he comes to it with a great deal of knowledge, a great number of facts that have come to him vitally and that are crying out for reorganization. For example, the study of physics should come when he has had much experience in an informal way with the phenomena falling under that head and begins to feel the need of their relation to a larger whole.

Another aspect of the centralization of subjects was brought out in the discussion of the paper by Miss Marian Weller on "The Principles of Presentation of Geographic Material," namely the importance of presenting material in such form to children that they would grasp the causal relations existing between phenomena.

Miss Weller's thesis was as follows:

In the "old" geography, place and location formed the content of the subject-matter, and facts appeared wholly isolated and unrelated. This "new" geography of ours presents a striking contrast, in looking at the subject from a distinctly human view-point; in recognizing man as the unifying element.

Those principles, therefore, which, according to our modern ideas, should underlie and control the presentation of geographic material in the elementary school, may be stated in a general way, as follows:

1. The human element should be most prominent. Man in his social and industrial environment is the central figure, and therefore geography should be presented from the human point of view.

2. Causal connections and relationships should be looked for at each step, and there should be a constant relating of man to his environment through his own needs, so making geography in its broadest sense a "study of the earth in its relation to life."

3. A first-hand knowledge of geographic facts and conditions at home

is essential in order to have a basis for the understanding of those conditions which are far reaching in their effect upon peoples.

4. Concreteness of material and illustrations should be aimed at.

In the discussion of this paper Dr. Herman Lukens said that he would add to the fourth point the idea of concreteness not merely for the purpose of having a graphic presentation but because concrete material embodies causal relation. He believed the course of study should be organized to this purpose—to bring out causal relation. Dr. Lukens thought the usual study of geography was too fragmentary, that mere skeletons of life were taken up for study, not real, live, active conditions, he said:

Material must be made over, and organized, to be sure that the causal relations are brought out, like the dramatist, the teacher, must choose elements artistically; the presentation must be of real life, but done as a work of art.

Dr. Lukens cited the type-studies of Dr. Charles A. McMurry as an example of concrete topics involving the presentation of material about some great situation until it becomes clear in its causal relations. He gave as an example the study of Niagara Falls and the great lakes extending over several weeks, covering the geology, history, manufactures, utilization of water power, great cities and reasons for their growth; afterward touching lightly on one or two other lakes and lake systems for comparison. He said that these causal relations must not be stated but must be thought out by the children, and to give them geographies that do state relations explicitly is to defeat one's purpose, which should be to have the work of discovery and organization done by the children. In speaking of contact with realities he said:

No arm-chair philosopher could have discovered the causal relation between the earthworms and the soil; the discovery was the result of observations made *on the ground.*

B. P.

BOOKS RECEIVED

MAYNARD, MERRILL AND CO., NEW YORK

Graded Literature Readers—Sixth Book. By HARRY PRATT JUDSON, LL.D., and IDA C. BENDER. Cloth. Illustrated. Pp. 256. Two copies.

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Natural Introductory Geography. By JACQUES W. REDWAY and RUSSELL HINMAN. Cloth. Illustrated. Maps. Pp. 146. $0.60.

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